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Silicon Valley fends off 'cloak and data'

First of two parts.

By Bill Gertz
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SUNNYVALE, Calif. — A research engineer, engaged in top secret work for Ford Aerospace and Communications Corp., was dining alone at a restaurant during a recent overseas business trip when a European approached the table and introduced himself in flawless English.

"He just sat down, struck up a conversation and very pointedly didn't waste any time [describing] the type business trip he was on and the type of work he was involved in," said Jerry E. Guibord, security manager at Ford Aerospace, a major Silicon Valley defense contractor.

The engineer, an experienced and wary traveler with security clearance, suspected that an intelligence agent was attempting to recruit him. He reported the incident to Mr. Guibord.

Later, Mr. Guibord said, it was determined that the man was not the salesman he had portrayed himself to be, but a suspected spy for one of the Soviet intelligence services, the KGB or its military counterpart, the GRU.

The case was one of six reported attempts to recruit Ford Aerospace employees within the last four years, Mr. Guibord said. It highlights the growing problem of espionage targeted against Silicon Valley, the largest concentration of high-tech industry in the United States.

The Central Intelligence Agency, in a report issued earlier this month, provides the most detailed picture to date of how the Soviet Union targets high-tech companies, many in California, for everything from microelectronics production equipment to the technology used in maneuvering missile warheads.

The Soviets scored a major success when they "reverse-engineered" their own version of the powerful 8080A 8-bit computer microchip first developed by Silicon Valley's largest chip manufacturer, Intel Corp., according to the CIA.

They even tried to buy a bank near the valley in order to collect financial information on Silicon Valley residents that could be used to recruit high-tech workers, according to Miles Costik, a private strategic-trade expert. The deal fell through when Moscow's role in providing \$70 million in credit became public.

Silicon Valley is a string of suburban enclaves located along a 30-mile strip from the south end of San Francisco Bay to San Jose. Its more than 1,500 high-technology companies represent the largest concentration of electronics and computer manufacturers in the United States.

Ten of the top 100 U.S. defense contractors listed in the CIA report as primary Soviet targets operate high-tech plants in Silicon Valley, including Ford Aerospace, Hewlett Packard Co., ITT Corp., Teledyne Inc. and Gould Electronics Inc.

Fifteen more high-tech defense contractors on the Soviet target list are located a few hundred miles south in the Los Angeles area.

Soviet-backed military and industrial espionage continues to be a growing problem for the region, according to federal officials and private security experts.

Thirty years ago, FBI agents had an easier time identifying Soviet bloc spies by their heavy Slavic accents or ill-fitting suits. Now the Soviets employ a wide range of highly educated people cloaked as Soviet bloc exchange students, visiting academicians, trade and scientific delegates, legal immigrants and "illegal" agents disguised as nationals of countries friendly to the United States, the security experts said.

"They don't just come [here] under the guise of Soviet students or Soviet nationals," Mr. Guibord said in an interview at the Ford Aerospace plant here. "They come under the guise of representatives of some other country that is not necessarily friendly to the Soviet Union.

"That's the way they do their job here and they do it very effectively, from the many cases we have," he said.

Mr. Guibord said Ford's combined 5,700 employees in Sunnyvale and Palo Alto constantly are made aware of espionage threats through the corporation's security education programs. The programs feature film presentations on computer security — one film is called "Cloak and Data" — and lectures on Soviet recruiting tactics and KGB technology "wish lists."

Because it conducts research on top secret communications used in nuclear and conventional warfare, Ford Aerospace is regarded as a key espionage target of the Soviet Union, said Mr. Guibord.

The CIA's new report on Soviet industrial espionage lists Ford Aerospace as the 22nd most important technology target. General Electric Co., Boeing Co. and Lockheed Corp. were listed as the top three, in that order.

The West Coast spy attack is carried out by the Soviet KGB, the GRU and a host of Soviet bloc surrogate intelligence, trade and scientific agencies, according to intelligence sources.

The CIA also has identified three major Soviet agencies that are used to collect technology and data from open sources through visits to the West: the Soviet Academy of Sciences, the State Committee for Science

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and Technology and the State Committee for Foreign Economic Relations.

"They and others help send approximately 2,000 Soviet-bloc citizens to the United States each year in a non-tourist status," the CIA report stated. It also charged that many of these people "have been co-opted to some degree by the Soviet intelligence services" in the technology collection effort.

Besides the Soviets, agents from China — from both Taiwan and the People's Republic of China — Japan, France, Israel and Korea also conduct industrial espionage here but with far less critical national security implications, FBI officials said.

The extent of Soviet bloc espionage in Silicon Valley was first brought to public attention in the celebrated 1983 espionage case of James Durward Harper Jr. Harper, a Silicon Valley engineer, married the secretary to the president of a defense contractor that handled some of the Air Force's most secret U.S. ballistic missile defense secrets.

According to the CIA report, Harper worked as an agent of the Polish intelligence service for 10 years between 1971 and 1981. The couple sold the missile defense data for \$560,000 to a Polish colonel working under cover in Silicon Valley as a Polish Machine Industry official.

Harper was arrested in 1983 and later was convicted for espionage after offering to work as a double agent for the CIA.

West Coast FBI Agent R. Patrick Watson said all of the secrets sold to the Polish colonel "went immediately to the Soviets."

"In the Harper case, the information on ballistic missiles ... was analyzed by Soviet technicians and the tasking was set by Soviets, so sometimes it blurs on whether you're dealing with Polish or Soviet [agents] — it's going to the same people," Mr. Watson said in an interview in his San Francisco office.

The Polish colonel and another Polish agent who handled the case were awarded medals by the late Soviet leader Yuri Andropov. Mr. Andropov was head of the KGB at the time, one intelligence source noted, adding that the espionage collaboration occurred at the height of Poland's attempt at liberal reforms during the period of the Solidarity trade union movement.

The CIA report on technology transfers listed the Harper case as one of the five most successful espionage operations aimed at netting Western technological secrets. It states that Harper's wife had access to the Air Force's Ballistic Missile Defense Advanced Technology Center through the center's contract with a small electronics firm called Systems Control Inc. in Mountain View, near Sunnyvale.

"Harper provided dozens of documents on potential U.S. ballistic missile defense programs, ICBM basing modes, and related technology [and] afforded the Soviets a unique look at potential U.S. future systems concepts," the report said.

Richard Niemi, a Ford Aerospace security official in Sunnyvale, said the Harper case jolted Silicon Valley industry executives "from management on down" into realizing the scope of Soviet espionage efforts.

"First and foremost, the Harper case brought it home to the valley," Mr. Niemi said.

"We started checking our subcontractors list to see if Harper had worked for us," Mr. Guibord of Ford Aerospace said. "That woke a lot of people up. They started

asking, 'Could it happen to us?'"

As a foreign counterintelligence specialist who has tracked Soviet spies for nearly 20 years in New York, Washington and now San Francisco, FBI Special Agent Watson said the official Soviet presence in California, though smaller than the Soviet's East Coast operation, is still very active. He estimated that one-third of the 45 to 50 diplomats and an unspecified number of staff at the Soviet Consulate in San Francisco are intelligence officers.

"But proportionately, if you look at the size of their establishment here, I think you'll see the same type of effort being made," Mr. Watson said.

Nine hundred eighty Soviets work at diplomatic and consular offices in the United States, including 153 non-diplomatic office and maintenance workers in Washington and San Francisco, according to the State Department. Besides the diplomatic presence, 90 Soviet journalists and commercial representatives work in the United States.

"They're not really targeting Silicon Valley," he said. "They are targeting information and people that work in the Silicon Valley."

The Soviet intelligence service is "a worldwide operation," Mr. Watson said, and it is hard to measure how active they are in one location since the Soviets use

agents all over the world to prepare for a single recruitment, most often outside the United States.

East European and Cuban intelligence services function as integrated surrogates of the Soviet spy apparatus, he said.

Mr. Watson said more attempts are made to recruit Americans outside the United States — in Mexico, Canada and Europe — since the GRU and KGB are "somewhat reluctant" to operate here because of tighter security.

"They find it easier and less threatening to meet [agents] in foreign countries, and Mexico is one of those countries where they meet agents," Mr. Watson said. Canada and Austria also are key meeting places for the Soviets, he added.

Moreover, the CIA believes that "East European intelligence services have been more successful than Soviet intelligence against priority targets in the United States" because East Europeans are generally perceived as less threatening, do not often appear to be surrogates for the Soviets and operate under fewer travel restrictions, the CIA report stated.

Along with more traditional espionage techniques of recruiting financially or emotionally troubled Americans, the Soviets recently have relied more on Americans who actively seek out Warsaw Pact buyers of military or industrial technology secrets.

"We've seen more and more of that here in California," Mr. Watson said.

As a result, Soviet spies have caused "incalculable damage" to American national security over the last few years, he said.

Mr. Watson said the Soviets have suffered some intelligence setbacks, such as the mass expulsions of Soviet agents from Britain, France and West Germany in recent years.

But damage to U.S. national security has been greater as the result of a few key Soviet espionage cases here, such as the Harper case, he said.

"There's been tremendous damage done to the national security," he said. Intelligence assessments con-

ducted in the wake of recent Soviet spy cases remain secret, preventing the public from knowing the extent of the damage from espionage, Mr. Watson said.

Virtually all of the FBI's recent U.S. espionage cases involve Americans motivated by greed, a sharp contrast to the espionage cases of the 1950s when communist ideology often induced spying, Mr. Watson said.

Without elaborating, Mr. Watson said there has been only one recent spy case where an individual committed espionage based on an ideological commitment to communism.

He attributed the change in spies' motivations to the "fast lifestyles" created after more than a decade of prosperity and affluence brought about by the boom in Silicon Valley's electronics and computer industries.

"I don't think people have changed very much over the last 20 or 30 years," Mr. Watson said. "I think the situation people find themselves in has changed; [they're] more susceptible to being recruited, or are succumbing to the need for money, and the only way they can make money is [to] sell what they have. And what they have is classified information."

In the past year, the FBI has arrested 12 people on espionage charges, including Thomas Patrick Cavanagh, who was caught selling radar-masking technology to FBI agents posing as Soviets in San Francisco, Mr. Watson said.

"We're detecting more instances of espionage than we've ever detected before — there's no question about that," Mr. Watson said.

By contrast, there were only eight espionage arrests the previous year, two each in 1983 and 1982 and four in 1981.

The major base for Soviet spying on the West Coast is the Soviet Consulate in San Francisco, commonly referred to as "Green Street," where it is located on a downtown hill. The consulate roof is decked with sophisticated electronic microwave listening devices, similar to those on the embassy roof in Washington.

Two espionage cases in the last year were linked to the consulate: former FBI Agent Richard Miller, now on trial in Los Angeles, allegedly gave his FBI credentials to a Soviet emigre who took them to the consulate; Mr. Cavanagh tried to contact Soviet agents in San Francisco in an attempt to sell details of secret "Stealth" aircraft technology.

Mr. Watson said Soviet officials — either trade or scientific representatives — travel to California about four times a month in delegations ranging from two to 10 people. Thirty to 35 percent of these visitors are Soviet spies, he said.

A defector from the Soviet scientific community told Western intelligence officials he was briefed by the KGB for eight days on what technology items to look for prior to a trip to the West.

Emigres also pose an espionage threat. Although the flow of Soviet emigres has decreased dramatically since the peak period of the late 1970s, "From a counterintelligence perspective, we do need to be concerned about the few agents that are dispatched in this manner," Mr. Watson said.

According to the latest FBI data available, 158,665 Soviet-bloc nationals emigrated to the United States between 1974 and 1983, including 70,243 Soviets, 48,252 Poles, 20,526 Romanians and 7,719 Czechs. Figures on East German emigres were not tabulated until three years ago and were included with West German emigres.

Students also are a potential espionage threat, Mr. Watson said. Stanford University and other local universities and colleges have accepted small groups of Warsaw Pact nationals whose travel is not restricted by the 25-mile limit proscribed for Soviet diplomats in San Francisco.

The CIA report stated that Stanford and the University of California at Berkeley have been targets of Soviet technology acquisition programs since the 1970s.

Tomorrow: Silicon Valley grapples with high-tech crime.

